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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/939,149	08/24/2001	Paul Mansky	1012-119(2001-021)	3009

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EXAMINER	
WIGGINS, JOHN DAVID	
ART UNIT	PAPER NUMBER
2856	

DATE MAILED: 06/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.	Applicant(s)
09/939,149	Paul Manky et al.
Examiner	**Art Unit**
David J. Wiggins	2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *May 08, 2003 [Amendment A with response and arguments]*.

2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-30* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☒ Claim(s) *10-20, 22, 24, 25, and 30* is/are allowed.

6) ☒ Claim(s) *1, 2, 4-9, 21, 23, and 26-29* is/are rejected.

7) ☒ Claim(s) *3* is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on *Aug 8, 2001* is/are a) ☒ accepted or b) ☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

a) ☐ The translation of the foreign language provisional application has been received.

15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s). _____
4) ☐ Interview Summary (PTO-413) Paper No(s). _____
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other:

Part III DETAILED ACTION

Examiner's Office Action

Drawings

1. ***This application has been filed with formal drawings which have been judged acceptable on their technical merit by the Examiner, while also judged to possess acceptable quality for meeting drawing requirements of any Patent Drawing Review to be done by a US PTO draftsperson after the 08/24/2001 filing date.***

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

3. The disclosure is objected to because of the following informalities:

On Page 32, claim 1, line 01; after the word "screening", please consider inserting the following phrase:

--- a set of members in ---

On Page 02, claim 1, line 07 of Amendment A dated 05/08/03; after the words "said materials", please consider inserting the following phrase: --- at said plurality of wells ---

On Page 05, claim 24, line 02 of Amendment A dated 05/08/03; after the term "about 10 ml", please consider inserting the following phrase: --- of volume ---

On Page 05, claim 25, line 02 of Amendment A dated 05/08/03; after the term "about 10 ml", please consider inserting the following phrase: --- of volume ---

On Page 06, claim 30, line 07 of Amendment A dated 05/08/03; after the words "first force", please consider inserting the following phrase: --- at said plurality of wells with ---

On Page 05, claim 30, line 07 of Amendment A dated 05/08/03; after the word "capillary", please consider inserting the following term: --- tube ---

On Page 06, claim 30, line 02 of Amendment A dated 05/08/03; after the word "capillary", please consider inserting the following term: --- tube ---

Appropriate correction is requested or required.

Response to Arguments

In response to applicant's argument that the prior art of McFarland et al. and Matsiev et al. are non-analogous art, it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, both references are in the Applicant's field of endeavor since their technology field does indeed relate to measuring viscosity; also, the Examiner declares that either of an ultrasonic, acoustic and mechanical vibration type sensor will generate, couple and transmit a force thru the sample against which their transducers are in contact with- as evidenced by the known force producing action of a piezoelectric oscillator crystal upon its being excited by an excitation voltage appllied thereto, or the force produced in the water from a pulsed sonar wave-train that propagates thru the sea during a ship's sonar search for other vessels occupying the same sea neighborhood [such force capable of paralyzing or killing fish swimming nearby, as well as generating bubbling action of cavitation and high temperature heating in the water] since a

force acts on the medium which is associated with any amplitude A or power level A**2 of a passing wave that moves thru the medium; hence it also follows that this longitudinal force is tranferred thru the wave carrying medium, the application of such mechanical force could be modified to produce a fluid flow causing function as in the case of a peristaltic pump. Also, the Examiner points out that some degree of fluid flow or motion is bound to occur under the influence of an applied vector force since F=m*a along the teachings of Issac Newton's first law; while the instant invention does state that the capillary contacts a member of the fluid material library so as to permit some such fluid material to be passed into & thru a capillary tip portion [during the applying of a force against such same material; re: claim 1]. Hence [in light of the above reasoning], the Examiner argues that claim 1, lines 4-7 are not so inconsistent with the combined lessons of McFarland et al., Matsiev et al., Hajduk et al. and Guan et al. as the Applicant's response of Paper No. 07 dated May 08, 2003 would otherwise indicate; and furthermore that this application of these combined references is not so incompatible as the Applicant would desire in order to fairly overcome the Office Action Rejection dated February 13, 2003. Also stated for the record is the fact that the instant invention of claim 1

fails to describe the nature of the applied force against the fluid material sample in the library of different samples, while it is commonly known that an acoustic wave/ultrasound transducer can be used, arranged or altered to either generate or receive such acoustic/ultrasound wave energy by appropriate circuitry interconnection, system interfacing, impedance matching and device installation. Also, the Examiner points out that in the Hajduk et al. viscometer device operation, that over the full time period of the fluid flow testing in and out of the sample contacting capillary, that the just aspirated fluid sample does flow back thru the needle back into the same sample well from which the fluid sample was drawn from; i.e.- thus leaving all the fluid material in the well or on the substrate [such behavior and end effect to be contrasted/compared with the claim 1 instant invention where the fluid sample is partial lifted up into the fluid contacting capillary tip during the force application, that leaves a minute fraction of the fluid sample confined within the capillary tip instead of being returned into the fluid sample well].

In response to Applicant's argument that their instant invention method serves to keep all the fluid sample on the substrate without the need to remove any such fluid material [as

does also McFarland et al. and Matsiev et al.], the fact that applicant has recognized another advantage which would flow naturally from following the suggestion of the prior art [e.g.- Hajduk et al.] cannot be the basis for patentability when the differences would otherwise be obvious. See *Ex parte Obiaya*, 227 USPQ 58, 60 (Bd. Pat. App. & Inter. 1985).

In response to applicant's argument that there is no suggestion to combine the references, the Examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the use of a capillary for performing a sampling operation and fluid containing/confining step is suggested by Hajduk et al. and Guan et al. so as to conduct a viscosity measurement on the sampled, isolated and confined fluid material, which material could clearly be further tested by applying some forces in the manner of McFarland et al. against some well array of material samples as again revealed by

McFarland et al.- the particular type of force applied to the samples being arbitrary, non-critical or non-defined in the context of instant invention claim 1. The Examiner also mentions & judges that not only is it Notoriously Old and Well Known for capillary tubules to be used for measuring viscosity of fluid samples, but also that it is Notoriously Old and Well Known that a suction type force is exerted upon a fluid sample upon its being contacted by a capillary tubule [so that the use of a capillary in Hajduk et al. to deliver a force upon a well array sample instead of using an acoustic/ultrasound transducer force in McFarland et al. is considered arbitrary and largely a matter of design choice for a skilled viscosimeter construction artisan in command of all the cited prior art at the time of the instant invention].

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. § 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.

Patentability shall not be negatived by the manner in which the invention was made.

Subject matter developed by another person, which qualifies as prior art only under subsection (f) or (g) of section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the invention was made, owned by the same person or subject to an obligation of assignment to the same person.

5. Claims 1-2, 4-6, 7, 8-9 and 26-29 are rejected under 35 U.S.C. § 103 as being unpatentable over McFarland, E. et al. WO98/15501 or Matsiev, L. et al. WO99/18431, in view of [Hajduk, D. et al. or Guan, S. et al.].

The prior art of McFarland et al. or Matsiev et al. teaches the technique of measuring viscosity [flow resistance] while applying a force to a multitude of different samples comprising a combinatorial library of sample well reactants in a material property characterizing apparatus that covers most features of the instant invention except for (1) having a capillary(s) system be used for contacting library members of a material(s) against a material source [as a fluid holding vessel or well or reservoir]. However, the prior art of Hajduk et al. discloses the concept of inserting a capillary into a sample well so as to move (dispense) a viscous liquid sample into the capillary (needle); with such sampling done for an array of sample wells so as to enable the determination of fluid viscosity by standard means [of noting

fluid flow rate or travel speed over a timed interval]- where of course, by definition a capillary tube should serve to naturally siphon some fluid into its inlet end by the capillary effect (without the need to introduce an externally caused pressure drop or suction force, via fan or pump); such capillary attraction principles being known related to viscosity in a Notoriously Old and Well Known manner of classic mathematical formulas. The Applicant is directed to review Hajduk et al. at their Columns 3-9 along with Figures 1, 6 & 15 for relevant details. It would have been obvious to one of ordinary skill in the art to consider using a capillary or needle for contacting a sample receiving well because this type of device is often used for dispensing small metered volumes of sample (titration) into a receiving site before sensor measurements are commenced. Similarly, the prior art of Guan et al. teaches an analogous method for measuring material properties via contact of a capillary tube restriction with a library material sample- please see their Column 3, line 10 - Column 8, line 49, especially Column 5 along with Figures 1-3, 8-9 & 12 for pertinent details. In regards to McFarland et al., the Applicant should review Page 7, line 8 - Page 8, line 10 and Pages 9-16 along with Figures 1-2, 5 & 8 for relevant details. In regards to Matsiev et al., the Applicant should

review Page 2, line 16 - Page 10, line 31 together with Figures 1a-1b, 2, 3, 6 & 10a-10b for pertinent details. In regards to claims 10-19, the Applicant should peruse thru Guan et al. at their Column 3, lines 38-44, and Hajduk et al. at their Column 3, lines 11-31 and Column 5, line 1 - Column 6, line 18 for relevant details. It would be obvious to the skilled combinatorial chemistry artisan to attempt to perform physical property measurements [viscosity, as well as chemical reactions] as swiftly as possible during such compound synthesis, testing and monitoring in a huge sample well array in order to trim research (R & D) time to a minimum (while finding & optimizing a useful formulation. In regards to claim 22, it is considered inherent for a non-pure viscous sample to include some impurities as solid components dissolved/suspended/trapped therein- with it being Notoriously Old and Well Known for a real world, real time "non-purified or non-filtered viscous/fluid" sample to contain some 500 nanometer solid particles; e.g.- dust, carbon, spores, smog or biologically active bodies.

Claim Rejections - 35 USC § 112

6. Claims 21 and 23 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to

particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The independent claims 21 and 23 are rejected as being vague and ambiguous because the present description does not suggest, indicate or clearly explain any means for performing a viscosity measurement upon the plurality (well array library) of liquid samples (there is no mention of any apparatus or modus operandi or measurement steps or technology structure/principle for the general measurements to be made on such multi-samples)- with no scientific method, operating principle or equipment parts disclosed the resulting claims are too broad for any skilled viscometer artisan to comprehend a logical basis for the alledged measurement method. In order to correct these above stated deficiencies, the Examiner recommends that the Applicant adopt changes similar to the below stated proposals for claim amendment (also please see and consider appropriate changes stated above at Paragraph 03):

On Page 04, claim 21, line 02 of Amendment A dated 05/08/03; after the words "liquid samples", please consider inserting the following phrase: --- by contacting said liquid samples with at least one capillary such that parts

of said liquid samples are permitted to be passed through a tip portion of said at least one capillary --- On Page 04, claim 23, line 02 of Amendment A dated 05/08/03; after the words "liquid samples", please consider inserting the following phrase: --- by contacting said liquid samples with at least one capillary such that parts of said liquid samples are permitted to be passed through a tip portion of said at least one capillary ---

Allowable Subject Matter

7. Claim 3 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. Claims 10-20 and 30 are allowable over the prior art of record.

9. Claims 21 and 23 would be allowable if rewritten or amended to overcome the rejection under 35 U.S.C. 112.

10. The following is an Examiner's statement of reasons for the indication of allowable subject matter: The prior art fails to disclose a method or system for screening & ***measuring a library of materials for viscosity by contacting a capillary with a library of materials placed in a plurality of sample wells defined on a common substrate, where the materials are permitted to pass through the capillary tip portion from the sample wells in response to a first force applied to the materials*** at the plurality of sample wells, and the relative ***flow resistances for such materials are monitored in response to same applied force while such same materials remain on the substrate*** so as to rank the members of same library of materials in regards to the monitored flow resistance(s); where such method, includes the further features of the objected to claim 3- i.e.- also applying a second force to the library of fluid material samples during the viscosty measurement monitoring.

11. The following is an Examiner's statement of Reasons for Allowance: The known prior art fails to disclose a method for ***screening a library of materials for viscosity by***

contacting a capillary (in rapid serial manner) with at least 16 materials placed in a plurality of sample wells [diameter 10 mm or smaller] defined on a common substrate; where the materials are permitted to pass through a cylindrical opening tip portion of capillary tube placed in position within the plurality of wells in mating relationship with the walls that define a perimeter of the plurality of wells; then ***applying a first force to the 16 materials that causes the 16 materials to flow through the capillary tube*** tip portion from the plurality of sample wells, and the ***relative flow resistances for such materials is monitored in response to same applied force at a throughput rate of 4 minutes per sample (or less time) while such same 16 materials remain on the substrate*** so as to rank the members of same library of 16 materials in regards to the measured flow resistance(s); or a similar method where the viscosity of a plurality of liquid samples is measured serially between each of the liquid samples at a throughput rate of no greater than 10 minutes per sample (as claim 10).

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

13. 'Any inquiry concerning this communication or earlier communications from the Examiner should be directed to J. David Wiggins whose telephone number is (703) 305-4884. The Examiner can normally be reached on Monday to Friday from 9AM to 7PM.

If attempts to reach the Examiner by telephone are unsuccessful, the Examiner's Supervisor, Hezron E. Williams, can be reached on (703) 305-4705. The fax phone number for this Group is (703) 308-7382.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group Receptionist whose telephone number is (703) 305-4900.

HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

WIGGINS/jdw
May 21, 2003